

Remarks/Arguments:

In response to the Office Action, the applicant offers the following remarks. Claims 1-59 were pending in the application. The Office Action rejected each of the 59 claims under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as his invention. Specifically, the Examiner objected to the preamble phrase "particularly for machines for distributing such materials" recited in each of the independent claims 1, 3, 7, 13, 17, 24, and 28. Consequently, the applicant has amended each of the independent claims to recite "A volumetric metering device for the metered delivery of granular and powdery materials, the device adapted for use with a machine for distributing such materials and comprising . . ." to more clearly define the claimed invention. As amended, the applicant respectfully submits that the rejections based on Section 112 have been overcome.

The Office Action rejected claims 1-4, 7-11, 13, 14, 16, 17, 28, 34-36, 40, and 44 based on the applied references. A summary of the substantive rejections is provided in the Table below.

ITEM	CLAIM(S)	BASIS FOR REJECTION	CITED REFERENCE(S)
A	1-4, 7-11, 34-36, 40 & 44	Section 102(b)	5,826,523 (Gregor)
B	1, 3 & 4	Section 102(b)	4,602,727 (Jackson) or 5,002,084 (Wilson)
C	13 & 14	Section 102(b)	EP 0358878
D	17	Section 102(b)	5,003,894 (Lafferty)
E	28	Section 102(b)	EP 0259633
F	2	Section 103(a)	Jackson or Wilson + Gregor
G	16	Section 103(a)	EP 0358878 + Gregor

The Examiner indicated (see page 10, first paragraph, of the Office Action) that claims 24-27 and 56-59 would be allowable if amended to overcome the rejection under 35 U.S.C. § 112. In the second paragraph on page 10 of the Office Action, the Examiner further indicated that dependent claims 5, 6, 12, 15, 18-23, 29-33, 37-39, 41-43, and 45-55 would be allowable if amended to overcome the rejection under Section 112 and if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

Thus, the Examiner indicated that claims 5, 6, 12, 15, 18-27, 29-33, 37-39, 41-43, and 45-59 contain patentable subject matter. The patentability of each of the seven independent claims is addressed below.

1. Independent Claim 1 Recites Patentable Subject Matter

Independent claim 1 has been amended in two respects. First, the limitation directed to the housing being molded of plastic material has been incorporated into claim 1 from dependent claim 2 (and, accordingly, claim 2 has been canceled). Second, claim 1 has been amended to recite that the "integral, monolithic, single piece" housing has two juxtaposed walls interconnected to each other by at least one interconnecting member so that the walls are rigidly held in a spaced-apart relationship. Support for this second amendment is provided in (a) the "Substitute Specification With Revision Marks Accepted," filed as part of the Preliminary Amendment along with the application, in the second and third paragraphs on page 30 of 35, and (b) Figures 6 and 7.

The Office Action rejected claim 1 under 35 U.S.C. § 102(b) as being anticipated by Gregor, Jackson, or Wilson. Anticipation requires that each and every limitation of the claim be disclosed, either expressly or under principles of inherency, in a single prior art reference. *In re Robertson*, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (reversing Board's anticipation rejection that was based on principles of inherency); MPEP § 2131. Absence from the reference of any claimed limitation negates anticipation. *Rowe v. Dror*, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997) (preamble claim limitation reciting a balloon angioplasty catheter not anticipated by a general purpose balloon catheter).

As amended, claim 1 recites, as one limitation, side walls and an interconnecting member molded of plastic material as an integral, monolithic, single piece. None of the Gregor, Jackson, or Wilson references either expressly or under principles of inherency discloses that limitation. Accordingly, the applicant respectfully submits that the applied references do not anticipate amended claim 1.

On page 27, second paragraph, of the Substitute Specification, the applicant makes clear that a "problem typical of known structures is that they comprise a plurality of parts which have to be assembled using connections, screws, flanges, etc." Accordingly, as described on page 27, last paragraph, of the Substitute Specification, it is an object of the invention to provide a housing formed in a single piece.

The integral, monolithic, single piece molded plastic housing recited in claim 1 achieves that object. None of the housing structures taught by the applied references is formed from an integral, monolithic, single piece of molded plastic. Therefore, none of the applied references anticipate claim 1.

Gregor discloses a brush for an air seeder metering system. The invention is directed, not to the housing of the system rather, to a meter brush with urethane bristles that provide a barrier preventing product from passing while allowing air to pass. See '523 Patent at column 1, lines 10-13; column 2, lines 7-10. Gregor discloses a conventional meter housing 60 formed of several, separate components: a top plate 75, front and rear side panels 85 and 90, and left and right end plates 95 and 100. "The top plate 75 connects the front and rear side panels 85, 90 and left and right end plates 95, 100." *Id.* at column 3, line 61 to column 4, line 7 (emphasis added), and Figures 6 and 7. Thus, contrary to the position taken by the Office Action, Gregor does not disclose a single piece housing.

In addition, Gregor does not disclose anything about the material of construction for the housing. Certain components that reside within the housing, such as the rotating meter rollers 145 (made of urethane plastic) and the casing section 140 (made of glass and mineral filled nylon), are made of plastic materials. But not the housing components. *Id.* at column 5, line 62 to column 6, line 24 and Figure 7.

Jackson discloses a rotary feeder system focused on positioning a rotor within a housing. Like the housing taught by Gregor, the housing 18 taught by Jackson is formed of several, separate components: a front plate 28, a rear wall (62 in the text, 82 in Figure 3), and a base (located near the bottom discharge exit opening 22 of the housing). See '727 Patent Figure 3. The end plate is connected by wing nuts 30 for easy removal. *Id.* at column 2, lines 44-46, and Figure 3. The rear wall is connected by fasteners (illustrated in Figure 3, for example, adjacent the reference number 82).

Wilson discloses a quick-clean rotary vane valve focused on ready disassembly for cleaning and easy reassembly. See '084 Patent at column 2, lines 3-5. Wilson specifically acknowledges that such valve units "are typically chrome or highly polished stainless steel." *Id.* at column 1, lines 18-20. Moreover, the housing 104 taught by Wilson is formed of several, separate components: a "disengageable" end plate 110, a stationary end plate 114, and a "movable" adapter plate 112. *Id.* at column 3, lines 36-48 and Figure 2.

In fact, therefore, all three of the applied references teach away from the integral, monolithic, single piece molded plastic housing recited in claim 1. All three references teach a conventional housing formed of separate walls and plates. Although Gregor and Jackson are silent regarding the material of construction for their housings, implying that conventional metal is used, Wilson specifically discloses a housing made of stainless steel. Such disclosure teaches away from a molded plastic housing.

2. Independent Claim 3 Recites Patentable Subject Matter

Independent claim 3 has been amended to incorporate into claim 3 the limitations from dependent claim 5 (and, accordingly, claim 5 has been canceled and dependent claim 6 has been amended to depend from claim 3 rather than from canceled claim 5). The Examiner has already indicated that the combination of claims 3 and 5 recites allowable subject matter. Therefore, the applicant respectfully submits that claim 3, as amended, is in condition for allowance.

3. Independent Claim 7 Recites Patentable Subject Matter

Independent claim 7 has been amended to incorporate into claim 7 the limitations from dependent claims 44 and 45 (and, accordingly, claims 44 and 45 have been canceled and dependent claim 46 has been amended to depend from claim 7 rather than from canceled claim 45). The Examiner has already indicated that the combination of claims 7, 44, and 45 recites allowable subject matter. Therefore, the applicant respectfully submits that claim 7, as amended, is in condition for allowance.

4. Independent Claim 13 Recites Patentable Subject Matter

Independent claim 13 has been amended to clarify an existing limitation. Specifically, claim 13 has been amended to recite that the metering member carries a plurality of metering wheels each having a hub with blades that extend radially from the hub, "the blades having appendages located proximate the free ends of the blades to strengthen the blades and restraining the blades of one wheel on the blades of the adjacent wheel." Support for the amendment is provided in (a) the Substitute Specification in the second and third full paragraphs on page 31 of 35, and (b) throughout the Figures (e.g., Figure 11).

The Office Action rejected claim 13 under Section 102(b) as being anticipated by EP 0358878. As noted above, anticipation requires that each and every limitation of the claim be disclosed, either expressly or under principles of inherency, in a single prior art reference. As amended, claim 13 recites, as one limitation, blades having appendages located proximate their free ends to strengthen the blades. The EP reference neither expressly nor under principles of inherency discloses that limitation. Accordingly, the applicant respectfully submits that the applied reference does not anticipate amended claim 13.

The EP reference discloses a metering device for a distributing machine with one or more coarse metering wheels 1a and 1b, and one or more precision metering wheels 2a and 2b. The wheels have hubs 6 and 7, and are separated by discs 12, 13, and 14. An appendage 24 extending axially (not radially) from one coarse wheel 1b engages a hole 25 located axially in another coarse wheel 1a to hold the wheels fast to one another. Thus, unlike the claimed invention, the wheel hubs (and not the blades) of the metering device have appendages, the appendages extend axially (not radially), and the appendages do not function to reinforce or strengthen the blades. See Figures 3-5 and the paragraph bridging columns 7 and 8 of the EP reference.

The structural limitation of claim 13 reciting that the blades have appendages located proximate their free ends achieves the functional advantage, also recited in the claim, of strengthening the blades. No structure in the EP reference is capable of performing the functional limitation of the claimed structure. Therefore, the EP reference does not anticipate claim 13.

5. Independent Claim 17 Recites Patentable Subject Matter

Independent claim 17 has been amended to incorporate into claim 17 the limitations from dependent claim 18 (and, accordingly, claim 18 has been canceled and dependent claim 19 has been amended to depend from claim 17 rather than from canceled claim 18). The Examiner has already indicated that the combination of claims 17 and 18 recites allowable subject matter. Therefore, the applicant respectfully submits that claim 17, as amended, is in condition for allowance.

6. Independent Claim 24 Recites Patentable Subject Matter

The applicant acknowledges with appreciation the Examiner's indication that independent claim 24 would be allowable if rewritten or amended to overcome the rejection under Section 112, second paragraph, set forth in the Office Action. The applicant has amended claim 24 only to clarify the claim and to overcome that rejection. Therefore, the applicant believes that claim 24 is in condition for allowance.

7. Independent Claim 28 Recites Patentable Subject Matter

Independent claim 28 has been amended to incorporate into claim 28 the limitations from dependent claim 29 (and, accordingly, claim 29 has been canceled and dependent claim 30 has been amended to depend from claim 28 rather than from canceled claim 29). The Examiner has already indicated that the combination of claims 28 and 29 recites allowable subject matter. Therefore, the applicant respectfully submits that claim 28, as amended, is in condition for allowance.

8. New Independent Claim 52 Recites Patentable Subject Matter

Pending claim 52 has been rewritten in independent form including all of the limitations of the base claim 17 (no claims intervene between claims 17 and 52). The Examiner has already indicated that the combination of claims 17 and 52 recites allowable subject matter. Therefore, the applicant respectfully submits that claim 52 is in condition for allowance.

9. New Independent Claim 60 Recites Patentable Subject Matter


New independent claim 60 combines the subject matter previously recited in claims 7, 10, 11, and 12. The Examiner has already indicated that the combination of claims 7 and 10-12 recites allowable subject matter. Therefore, the applicant respectfully submits that claim 60 is in condition for allowance.

Claims 2, 5, 18, 29, 44, and 45 have been canceled. New claim 60 has been added. Therefore, claims 1, 3, 4, 6-17, 19-28, 30-43, and 46-60 remain pending in the application. Claims 1, 3, 6, 7, 13, 17, 19, 24, 28, 30, 46, and 52 have been amended.

For all of the foregoing reasons, independent claims 1, 3, 7, 13, 17, 24, 28, 52, and 60 are in condition for allowance. Because claims 4, 6, 8-12, 14-16, 19-23, 25-27, 30-43, 46-51, and 53-59 each depend from a patentable claim, they are also patentable. *See, e.g., In re McCarn*, 101 USPQ 411, 413 (CCPA 1954) ("sound law" requires allowance of dependent claims when their antecedent claims are allowed).

The rejections under 35 U.S.C. §§ 102, 103, and 112 should all be withdrawn. Favorable action is earnestly solicited. Finally, the Examiner is invited to call the applicant's undersigned representative if any further action will expedite the prosecution of the application or if the Examiner has any suggestions or questions concerning the application or the present Response. In fact, if the claims of the application are not believed to be in full condition for allowance, for any reason, the applicant respectfully requests the constructive assistance and suggestions of the Examiner in drafting one or more acceptable claims pursuant to MPEP § 707.07(j) or in making constructive suggestions pursuant to MPEP § 706.03 so that the application can be placed in allowable condition as soon as possible and without the need for further proceedings.

Respectfully submitted,


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The Commissioner for Patents is hereby authorized to charge payment for any additional fee which may be required or to credit any overpayment to Deposit Account No. 502951.

Any response in this application requiring a petition for extension of time, but failing to include one, should be treated as though it does include the required petition for extension of time.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on:

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